

RAW SEQUENCE LISTING

The Biotechnology Systems Branch of the Scientific and Technical
Information Center (STIC) no errors detected.

Application Serial Number: 10/534780
Source: PCT
Date Processed by STIC: 5/20/5

ENTERED



PCT

RAW SEQUENCE LISTING

DATE: 05/20/2005

PATENT APPLICATION: US/10/534,780

TIME: 13:43:22

Input Set : A:\22542_010_PCT.ST25.txt

Output Set: N:\CRF4\05202005\J534780.raw

3 <110> APPLICANT: Performance Plants, Inc.

5 <120> TITLE OF INVENTION: Hydroxypyruvate Reductase Nucleic Acids, Polypeptides,

Promoter

6 Elements and Methods of Use Thereof in Plants

8 <130> FILE REFERENCE: 22542-010-061

C--> 10 <140> CURRENT APPLICATION NUMBER: US/10/534,780

C--> 11 <141> CURRENT FILING DATE: 2005-05-13

13 <150> PRIOR APPLICATION NUMBER: 60/427,204

14 <151> PRIOR FILING DATE: 2002-11-18

16 <160> NUMBER OF SEQ ID NOS: 30

18 <170> SOFTWARE: PatentIn version 3.2

20 <210> SEQ ID NO: 1

21 <211> LENGTH: 1161

22 <212> TYPE: DNA

23 <213> ORGANISM: Artificial

25 <220> FEATURE:

26 <223> OTHER INFORMATION: Hydroxypyruvate reductase (HPR) nucleic acid sequence

28 <400> SEQUENCE: 1

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29 atggcgaaac cgggtgtccat tgaagtgtat aatcctaata ggaaataacag agttgttagc      60
31 acaaaaccga tgcctggaac tgcctggatc aatctcttgg tagaccaagg ttgtcgcgtt      120
33 gagatatgtc atttgaagaa gacaatcctt tctgtagaag atatcattga tctgatcgga      180
35 gacaagtgtg atggagtcac cggtcagttg acggaagatt ggggagagac tctgttctca      240
37 gcttttgagca aagctggagg gaaagctttc agtaacatgg ccgttggtta taacaacggt      300
39 gatgttgaag ctgccaataa gtatggaatt gctgtcggta acactccggg agtggtgact      360
41 gagacgacgg ctgaactagc tgcttctctt tccttggctg ctgcaagaag aattggtgaa      420
43 gccgacgaat tcatgagagg tggcttgtag gagggatggc ttcctcatct gtttgtgggg      480
45 aacttactta aaggacagac tgttggaagt attggagctg gacgtattgg atctgcttat      540
47 gctagaatga tgggtggaagg gttcaagatg aatttgatct actttgatct ttaccaatcc      600
49 actcgtcttg agaaatttgt gacagcttat ggacagttct tgaaagcaaa tggagaacaa      660
51 cctgtgacat ggaaacgagc ttcgtccatg gaggaggtgc tgcgtgaggc tgatctgata      720
53 agtcttcacc cgggtgctgga caaaaccact taccatcttg tcaacaagga gaggcttgcc      780
55 atgatgaaaa aggaagcaat ccttgtgaac tgcagcagag gtctgtgat cgatgaggca      840
57 gctttggtcg aacatctcaa agagaacccg atgttccgag ttggtctcga tgtgttcgag      900
59 gaagagccat tcatgaaacc agggcttgct gatacgaaaa acgctattgt tgttcctcac      960
61 attgcttctg cttccaagtg gactcgtgaa ggaatggcta cgcttgagc tctcaacgtc     1020
63 ctcggaagag tcaaagggtg cccgatttgg catgacccga accgagtcga tccattcttg     1080
65 aacgaaaacg cttcaccgcc caatgccagt ccaagcatcg tcaactcaaa ggccttagga     1140
67 ttgcctgttt cgaagctatg a                                     1161

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70 <210> SEQ ID NO: 2

71 <211> LENGTH: 386

72 <212> TYPE: PRT

73 <213> ORGANISM: Artificial

75 <220> FEATURE:

76 <223> OTHER INFORMATION: encoded HPR protein sequence

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78 <400> SEQUENCE: 2

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80 Met Ala Lys Pro Val Ser Ile Glu Val Tyr Asn Pro Asn Gly Lys Tyr
81 1          5          10          15
84 Arg Val Val Ser Thr Lys Pro Met Pro Gly Thr Arg Trp Ile Asn Leu
85          20          25          30
88 Leu Val Asp Gln Gly Cys Arg Val Glu Ile Cys His Leu Lys Lys Thr
89          35          40          45
92 Ile Leu Ser Val Glu Asp Ile Ile Asp Leu Ile Gly Asp Lys Cys Asp
93          50          55          60
96 Gly Val Ile Gly Gln Leu Thr Glu Asp Trp Gly Glu Thr Leu Phe Ser
97 65          70          75          80
100 Ala Leu Ser Lys Ala Gly Gly Lys Ala Phe Ser Asn Met Ala Val Gly
101          85          90          95
104 Tyr Asn Asn Val Asp Val Glu Ala Ala Asn Lys Tyr Gly Ile Ala Val
105          100          105          110
108 Gly Asn Thr Pro Gly Val Leu Thr Glu Thr Thr Ala Glu Leu Ala Ala
109          115          120          125
112 Ser Leu Ser Leu Ala Ala Ala Arg Arg Ile Val Glu Ala Asp Glu Phe
113          130          135          140
116 Met Arg Gly Gly Leu Tyr Glu Gly Trp Leu Pro His Leu Phe Val Gly
117 145          150          155          160
120 Asn Leu Leu Lys Gly Gln Thr Val Gly Val Ile Gly Ala Gly Arg Ile
121          165          170          175
124 Gly Ser Ala Tyr Ala Arg Met Met Val Glu Gly Phe Lys Met Asn Leu
125          180          185          190
128 Ile Tyr Phe Asp Leu Tyr Gln Ser Thr Arg Leu Glu Lys Phe Val Thr
129          195          200          205
132 Ala Tyr Gly Gln Phe Leu Lys Ala Asn Gly Glu Gln Pro Val Thr Trp
133          210          215          220
136 Lys Arg Ala Ser Ser Met Glu Glu Val Leu Arg Glu Ala Asp Leu Ile
137 225          230          235          240
140 Ser Leu His Pro Val Leu Asp Lys Thr Thr Tyr His Leu Val Asn Lys
141          245          250          255
144 Glu Arg Leu Ala Met Met Lys Lys Glu Ala Ile Leu Val Asn Cys Ser
145          260          265          270
148 Arg Gly Pro Val Ile Asp Glu Ala Ala Leu Val Glu His Leu Lys Glu
149          275          280          285
152 Asn Pro Met Phe Arg Val Gly Leu Asp Val Phe Glu Glu Glu Pro Phe
153          290          295          300
156 Met Lys Pro Gly Leu Ala Asp Thr Lys Asn Ala Ile Val Val Pro His
157 305          310          315          320
160 Ile Ala Ser Ala Ser Lys Trp Thr Arg Glu Gly Met Ala Thr Leu Ala
161          325          330          335
164 Ala Leu Asn Val Leu Gly Arg Val Lys Gly Tyr Pro Ile Trp His Asp
165          340          345          350
168 Pro Asn Arg Val Asp Pro Phe Leu Asn Glu Asn Ala Ser Pro Pro Asn
169          355          360          365
172 Ala Ser Pro Ser Ile Val Asn Ser Lys Ala Leu Gly Leu Pro Val Ser
173          370          375          380

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176 Lys Leu

177 385

180 <210> SEQ ID NO: 3

181 <211> LENGTH: 1161

182 <212> TYPE: DNA

183 <213> ORGANISM: Artificial

185 <220> FEATURE:

186 <223> OTHER INFORMATION: nucleotide sequence complimentary to HPR

188 <400> SEQUENCE: 3

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189 tcatagcttc gaaacaggca atcctaaggc ctttgagttg acgatgcttg gactggcatt      60
191 gggcggtgaa gcgttttcgt tcaagaatgg atcgactcgg ttcgggtcat gccaaatcgg      120
193 gtaccctttg actcttccga ggacgttgag agctgcaagc gtagccattc cttcacgagt      180
195 ccacttgga gacagaagcaa tgtgaggaac aacaatagcg tttttcgtat cagcaagccc      240
197 tggtttcatg aatggctctt cctcgaacac atcgagacca actcgggaaca tcgggttctc      300
199 tttgagatgt tcgaccaaag ctgcctcatc gatcacagga cctctgctgc agttcacaag      360
201 gattgcttcc tttttcatca tggcaagcct' ctcttgttg acaagatggg aagtggtttt      420
203 gtccagcacc gggatgaagac ttatcagatc agcctcacgc agcacctcct ccatggacga      480
205 agctcgtttc catgtcacag gttgttctcc atttgctttc aagaactgtc cataagctgt      540
207 cacaaatttc tcaagacgag tggattggta aagatcaaag tagatcaaat tcattctgaa      600
209 cccttccacc atcattctag cataagcaga tccaatacgt ccagctccaa taactccaac      660
211 agtctgtcct ttaagtaagt tccccacaaa cagatgagga agccatccct cgtacaagcc      720
213 acctctcatg aattcgtcgg cttcaacaat tcttcttgca gcagccaagg aaagagaagc      780
215 agctagttca gccgtcgtct cagtcaacac tcccggagtg ttaccgacag caattccata      840
217 cttattggca gcttcaacat caacgttgtt ataaccaacg gccatgttac tgaaagcttt      900
219 ccctccagct ttgctcaaag ctgagaacag agtctctccc caatcttccg tcaactgacc      960
221 gatgactcca tcacacttgt ctccgatcag atcaatgata tcttctacag acaagattgt      1020
223 cttcttcaaa tgacatatct caacgcgaca accttgggtc accaagagat tgatccagcg      1080
225 agttccaggc atcggttttg tgctaacaac tctgtatttc ccattaggat tatacacttc      1140
227 aatggacacc ggtttcgcca t                                     1161

```

230 <210> SEQ ID NO: 4

231 <211> LENGTH: 512

232 <212> TYPE: DNA

233 <213> ORGANISM: Artificial

235 <220> FEATURE:

236 <223> OTHER INFORMATION: HPR promoter sequence

238 <400> SEQUENCE: 4

```

239 gaagcagcag aagccttgat catcttcctt tgtctcaacc tgaaactctt ttttttcttt      60
241 cattgtttgt tctcttttca ctgtggatgt agataattgt ttttaatgaa atgaagaaat      120
243 attgatttgc cttttgacat aattttgtta ataactctga ttacaaattt tagtcagtgt      180
245 ttgatgcata gttgcatact gcagagttga gtttggatat ggccacgtca gcattatctc      240
247 gttacaaaaa cgtaaggctc aaactcagat aatacaaacg aagcagttct ttgtcactct      300
249 atcatcaaca tatgaaccac accaaaaaag aacaaaatcg tagataatga tcatgcaaaa      360
251 ccgaccgttg gatcttactt tcgatttcaa accacataaa tcttagtgac tgagctaaaa      420
253 aactgaaatt ttttaaaagg caagacctcc tctgtttcca tattctcacc acagaagaac      480
255 tcttgaggct ttctcttttc tctaccatgg cg                                     512

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258 <210> SEQ ID NO: 5

259 <211> LENGTH: 288

260 <212> TYPE: DNA

261 <213> ORGANISM: Artificial

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263 <220> FEATURE:
264 <223> OTHER INFORMATION: HPR truncated promoter sequence
266 <400> SEQUENCE: 5
267 acgtcagcat tatctcgta ccaaaacgta aggtccaaac tcagataata caaacgaagc      60
269 agttctttgt cactctatca tcaacatatg aaccacacca aaaaagaaca aaatcgtaga      120
271 taatgatcat gcaaaaccga ccgttgatc ttactttcga tttcaaacca cataaatctt      180
273 agtgactgag ctaaaaaact gaaatTTTTT aaaaggcaag acctcctctg tttccatatt      240
275 ctcaccacag aagaactctt gaggccttct cttttctcta ccatggcg                288
278 <210> SEQ ID NO: 6
279 <211> LENGTH: 26
280 <212> TYPE: DNA
281 <213> ORGANISM: Artificial
283 <220> FEATURE:
284 <223> OTHER INFORMATION: HPRClaI primer
286 <400> SEQUENCE: 6
287 aaatcgatat ggcgaaaccg gtgtcc                                26
290 <210> SEQ ID NO: 7
291 <211> LENGTH: 29
292 <212> TYPE: DNA
293 <213> ORGANISM: Artificial
295 <220> FEATURE:
296 <223> OTHER INFORMATION: HPRBamHI primer
298 <400> SEQUENCE: 7
299 cgggatcctc atagcttcga aacaggcaa                                29
302 <210> SEQ ID NO: 8
303 <211> LENGTH: 29
304 <212> TYPE: DNA
305 <213> ORGANISM: Artificial
307 <220> FEATURE:
308 <223> OTHER INFORMATION: HPRBamFW primer
310 <400> SEQUENCE: 8
311 aaaggatcca tggcgaaacc ggtgtccat                                29
314 <210> SEQ ID NO: 9
315 <211> LENGTH: 30
316 <212> TYPE: DNA
317 <213> ORGANISM: Artificial
319 <220> FEATURE:
320 <223> OTHER INFORMATION: RD29AP1 primer
322 <400> SEQUENCE: 9
323 tttaagcttg gagccataga tgcaattcaa                                30
326 <210> SEQ ID NO: 10
327 <211> LENGTH: 33
328 <212> TYPE: DNA
329 <213> ORGANISM: Artificial
331 <220> FEATURE:
332 <223> OTHER INFORMATION: RD29AP2 primer
334 <400> SEQUENCE: 10
335 aaatctagac tttccaatag aagtaatcaa acc                                33
338 <210> SEQ ID NO: 11

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Input Set : A:\22542_010_PCT.ST25.txt

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339 <211> LENGTH: 29
340 <212> TYPE: DNA
341 <213> ORGANISM: Artificial
343 <220> FEATURE:
344 <223> OTHER INFORMATION: HPRXbaRE primer
346 <400> SEQUENCE: 11
347 aaatctagac gtttccatgt cacagggttg                29
350 <210> SEQ ID NO: 12
351 <211> LENGTH: 29
352 <212> TYPE: DNA
353 <213> ORGANISM: Artificial
355 <220> FEATURE:
356 <223> OTHER INFORMATION: HPRSacFW primer
358 <400> SEQUENCE: 12
359 aaagagctca tggcgaaacc ggtgtccat                29
362 <210> SEQ ID NO: 13
363 <211> LENGTH: 29
364 <212> TYPE: DNA
365 <213> ORGANISM: Artificial
367 <220> FEATURE:
368 <223> OTHER INFORMATION: HPRSacRE primer
370 <400> SEQUENCE: 13
371 aaagagctcc gtttccatgt cacagggttg                29
374 <210> SEQ ID NO: 14
375 <211> LENGTH: 29
376 <212> TYPE: DNA
377 <213> ORGANISM: Artificial
379 <220> FEATURE:
380 <223> OTHER INFORMATION: HPRP1Hind primer
382 <400> SEQUENCE: 14
383 aaaaagcttg aagcagcaga agccttgat                29
386 <210> SEQ ID NO: 15
387 <211> LENGTH: 30
388 <212> TYPE: DNA
389 <213> ORGANISM: Artificial
391 <220> FEATURE:
392 <223> OTHER INFORMATION: HPR2Bam primer
394 <400> SEQUENCE: 15
395 aaaggatccc gccatggtag agaaaagaga                30
398 <210> SEQ ID NO: 16
399 <211> LENGTH: 30
400 <212> TYPE: DNA
401 <213> ORGANISM: Artificial
403 <220> FEATURE:
404 <223> OTHER INFORMATION: HPR3Hind primer
406 <400> SEQUENCE: 16
407 aaaaagctta cgtcagcatt atctcgttac                30
410 <210> SEQ ID NO: 17
411 <211> LENGTH: 44

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RAW SEQUENCE LISTING ERROR SUMMARY
PATENT APPLICATION: US/10/534,780

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Input Set : A:\22542_010_PCT.ST25.txt
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Invalid <213> Response:

Use of "Artificial" only as "<213> Organism" response is incomplete,
per 1.823(b) of New Sequence Rules. Valid response is Artificial Sequence.

Seq#:1,2,3,4,5,6,7,8,9,10,11,12,13,14,15,16,17,18,19,20,21,22,23,24,25,26,27
Seq#:28,29,30

VERIFICATION SUMMARY

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Input Set : A:\22542_010_PCT.ST25.txt

Output Set: N:\CRF4\05202005\J534780.raw

L:10 M:270 C: Current Application Number differs, Replaced Current Application Number

L:11 M:271 C: Current Filing Date differs, Replaced Current Filing Date